SUPREME COURT OF THE UNITED STATES.

No. 38.—October Term, 1925.

Harry B. Stilz, Appellant,
vs.
The United States.
} Appeal from the Court of Claims.

[November 16, 1925.]

Mr. Justice Butler delivered the opinion of the Court.

Plaintiff brought this action, under the Act of Congress approved July 1, 1918, c. 114, 40 Stat. 705, to recover compensation for the use and manufacture, by or for the Navy Department, of certain oil burners alleged to infringe Patents 945873 and 1066161, granted him January 11, 1910, and July 1, 1913, respectively. The Court of Claims filed findings of fact and conclusion of law (59 C. Cls. 21), and adjudged that plaintiff was not entitled to recover.

The substance of the findings in respect of the prior art, the burners covered by plaintiff's patents, and the burners manufactured and used by the United States and alleged to be infringements may be indicated briefly. Each of these patents was for improvements in oil burners. In order successfully to be used for fuel, oil must be atomized to permit its mixture with the proper amount of air for combustion. In the prior art to which plaintiff's patents relate, there were numerous structures disclosed by patents and publications referred to in the findings, including two types of burners in use and known respectively as mechanical atomizers and steam atomizers. In the former the oil is atomized by means purely mechanical. It is projected, under heavy pressure from the burner into the furnace in a whirling cone-shaped film, which almost immediately develops into fine spray. In the latter there is a combination with the oil, while yet within the burner proper, of a stream of steam, air, or other gaseous fluid under pressure for the purpose of aiding the atomization. In both, air for combustion is admitted through a surrounding register and is more or less intimately intermixed with the oil spray.

The burner covered by Patent 945873 provides for the use of steam, air or other gaseous fluid under pressure to aid in atomiza-

tion of the oil. The oil, under heavy pressure, is discharged tangentially into the annular space of the nozzle between the outer casing and center plug, thus giving the oil a rotary motion in the nozzle. The steam or other fluid, under heavy pressure, is also discharged tangentially into this space in the same direction as the oil with which it rotates; and thus aids in atomizing the oil, which issues from the orifice of the nozzle at a high velocity through an air register and into the furnace in a cone-shaped film and spray. Air for combustion is supplied through the register, and mixes with the oil spray in it and in the furnace.

The burner covered by Patent 1066161 also provides for the use of steam, air or other gaseous fluids under pressure as an aid in the atomization of the oil. This device includes an annular space between inner and outer casings of the nozzle. The oil and steam are not brought together until after the oil, under heavy pressure, is forced through a spiral and orifice into the front of this space in a rapidly rotating cone-shaped film. The steam, air or other fluid passes through a pipe under heavy pressure and is discharged tangentially into this space, rotating towards the outer orifice in a whirling layer. The oil leaving the inner orifice is struck by the rotating steam before it passes through the outer orifice. Air for combustion is supplied through a circular register attached to the front of the furnace through the center of which the oil is projected from the nozzle into the furnace in a cone-shaped spray. The air flows around the oil spray and mixes with it in the register and in the furnace where combustion takes place.

The type and character of the oil burners and equipment manufactured and used by the United States, and which are alleged by plaintiff to infringe his patents, are indicated by the findings. These oil burners and equipment provide for the atomization of the oil by means of its projection into the furnace under heavy pressure through spiral passages in the nozzle of the burner in a whirling cone-shaped film which almost immediately upon leaving the nozzle develops into fine spray. The air for combustion is furnished under mild blower pressure in the furnace room through an air register surrounding the burner and burner opening into the furnace. The register is provided with vanes or other means for giving the air a whirling motion to facilitate the intermixture with the oil spray. The oil and air are whirled together in the same direction. No steam, air, or other gaseous fluid is

introduced into or used in the burner proper for any purpose, nor used with any part of the equipment for the atomization of the oil. The air, which passes through the register encircling the burner, is to supply oxygen necessary for combustion.

From the findings it clearly appears that the mixing of the steam, air or other gaseous fluid with the oil in the annular space to aid atomization before the spray is brought into contact with the air supplied for combustion and before it passes into the furnace is the important feature distinguishing the burners covered by plaintiff's patents from those above described which are manufactured and used by the United States. The Court of Claims expressly found, "It does not appear that any of the devices of the plaintiff's said Letters Patent No. 945873 and No. 1066161 have been manufactured or used by the United States, or that said letters patent have been infringed by the United States."

Infringement is a question of fact. The quoted finding is in the nature of special verdict of a jury. *United States* v. *Anciens Etablissements,* 224 U. S. 309, 322, 330; *Brothers* v. *United States,* 250 U. S. 88, 93. This Court accepts the findings of fact made by the Court of Claims and cannot review them. *Collier* v. *United States,* 173 U. S. 79, 80. And even where a finding determines a mixed question of law and fact, it is conclusive unless the court is able to separate the question to see whether there is a mistake of law. *United States* v. *Omaha Indians,* 253 U. S. 275, 281; *Ross* v. *Day,* 232 U. S. 110, 116; *Whitcomb* v. *White,* 214 U. S. 15, 16; *Marquez* v. *Frisbie,* 101 U. S. 473, 476. Our consideration of the case is confined to questions of law. *Union Pacific Railway Co.* v. *United States,* 116 U. S. 154, 157; *Keokuk & Hamilton Bridge Co.* v. *United States,* 260 U. S. 125. And the situation is the same as it would be if the facts had been agreed upon by the parties. *United States* v. *Pugh,* 99 U. S. 265, 271. As no infringement was found, the facts are not sufficient to constitute a cause of action.

Judgment affirmed.

A true copy.

Test:

Clerk, Supreme Court, U. S.